

1999 Country Reports on Economic Policy and Trade Practices

Released by the Bureau of Economic and Business Affairs

U.S. Department of State, March 2000

RUSSIA

Key Economic Indicators

(Billions of U.S. Dollars unless otherwise noted)

	1997	1998	1999	1/
<i>Income, Production and Employment:</i>				
Nominal GDP 2/	2,522	2,685	4,600	
Real GDP Growth (pct)	0.6	-4.6	1.5	
Per Capita Personal Income (US\$)	922	610	466	4/
Labor Force (000s)	72,000	72,000	73,700	
Unemployment Rate (pct)	11.2	13.3	12.4	
<i>Money and Prices (annual percent growth):</i>				
Money Supply Growth (M2)	30.6	3.2	48.8	4/
Consumer Price Index (percent increase)	11	84.3	45.0	
Exchange Rate (Ruble/US\$ annual average)	5.785	9.705	24.429	
<i>Balance of Payments and Trade:</i>				
Total Exports (FOB)	85.0	71.3	31.1	5/
Exports to U.S.	4.5	5.7	3.8	6/
Total Imports (CIF)	52.9	43.5	14.5	5/
Imports from U.S.	4.1	3.6	0.9	6/
Trade Balance	32.1	27.8	16.6	5/
Balance with U.S.	0.4	2.1	2.9	6/
Current Account	3.5	2.4	12.6	
External Public Debt	123.5	147	159.7	
Debt Service Payments/GDP (pct)	1.4	3.7	5.9	4/
Fiscal Deficit/GDP (pct)	6.7	3.2	3.8	5/
Gold and Foreign Exchange	17.8	12.1	11.8	3/
Aid from U.S. (US\$ millions) 7/	492	639.4	1,937.1	
Aid from All Other Sources	N/A	N/A	N/A	

1/ 1999 data has been provided for the last available period (9/99) unless otherwise noted. The Russian Ruble was re-denominated on January 1, 1998 by dropping three zeros off the value of the currency. All data in ruble terms have been adjusted to "new rubles" for comparability.

- 2/ Billions of Russian Rubles.
- 3/ Data for January-October 1999.
- 4/ Data for January-August 1999.
- 5/ Data for the period January-June 1999.
- 6/ U.S. Commerce Department data for the period January-August 1999.
- 7/ USG Assistance (by fiscal year) including food assistance, not including donated humanitarian commodities shipped by USG. Military assistance included \$389.4 million in Department of Defense funds, largely for strategic weapons destruction programs, plus IMET and FMF programs, from which only \$228,000 was spent in FY99.

Sources: Russian Statistics Committee (Goskomstat), Russian State Customs Committee, International Monetary Fund, Department of State S/NIS/C and embassy estimates.

1. General Policy Framework

The Russian economy rebounded somewhat in 1999 from the economic and financial crisis of 1998, based on higher oil prices and import substitution resulting from the devaluation of the ruble. However, in the absence of substantial progress toward the reforms necessary to underpin a vigorous market economy and attract domestic and foreign investment, the Russian economy remains fragile and vulnerable to external and internal shocks. Industrial production in October was up 10.3 percent from the depressed levels of October 1998. The IMF is forecasting year on year inflation at end-December of 45 percent, compared to more than 80 percent in 1998. Unemployment has eased and the demand for cash transactions continued to rise as barter deals declined.

Despite estimates for real GDP growth in 1999 ranging from 0 to 3 percent, the economic boost from devaluation of the ruble and increased revenues from oil exports is unlikely to be repeated in the coming year. In the near term, sustainable growth in Russia will depend importantly on domestic demand, consumption and investment, all of which are running well below last year's levels. The lack of significant progress on structural reforms and the difficult investment climate contribute to continued net capital outflow. Surveys suggest that a main constraint to production is the absence of working capital, but the banking sector has not stabilized from its collapse in 1998 and is not in a position to effectively intermediate savings to productive investments on a large scale.

Fiscal policy for the first half of the year was moderately disciplined, with an overall deficit of 3.8 percent compared with a budget target of 2.5 percent for the year. Following low cash collections in the beginning of the year, revenue collections increased substantially, topping 13.2 percent of GDP during the first half of the year, compared with 10.5 percent over the same period in 1998. The GOR expects revenues of R551 billion for the year, about 16 percent over budget. Monetary policy was moderately tight. Base money increased 22 percent during the first half of the year, in part due to indirect central bank financing of the federal deficit, specifically assisting in servicing the GOR's external debt. The ruble remained relatively stable between March and August in a more tightly controlled foreign exchange environment than before. In these conditions, the Central Bank has sought to avoid exchange rate volatility through selective interventions to smooth the trend. The Central Bank's reserves have not significantly increased, partially due to external debt payments, changes in accounting and unauthorized capital exports.

The cost of Russia's 1998 financial collapse was significant. GDP measured in USD terms declined from around USD 422 billion in 1997 to USD 132 billion at the end of 1998, about the level of GDP in 1993. While nominal ruble revenues have increased this year to date, they are still about half those of last year, as measured in USD terms. Similarly in the banking sector, assets in USD fell by 50 percent to around USD 50 billion. As with other emerging markets that have suffered sharp setbacks, rebuilding will take time.

Government economic policy has been largely static this year. While the three successive post-August-1998 governments have not adopted policies that would have exacerbated an already fragile situation, none have adopted aggressive policies to address fundamental challenges faced by the country. With upcoming parliamentary elections in December and presidential elections in June, the consensus of observers is that major movement on reforms or major policy changes are unlikely until the new Duma and new President are in place.

2. Exchange Rate Policy

The objective of the Central Bank of Russia's (CBR) exchange rate policy is to ensure the stability and predictability of the ruble exchange rate and prevent abrupt fluctuations, in the context of a floating exchange rate regime. After slipping at the beginning of the year, the nominal ruble/dollar rate held steady at around 24.5 from May through August, then drifted down to about 26.8 in December. High ruble liquidity, as reflected by the approximately R70 billion in banks' correspondent accounts at the CBR, supported the decline late in the year. From September through mid-November, the ruble has depreciated approximately 4.5 percent in nominal terms.

The ruble's tentative stability can be explained in part by new market conditions. The CBR has tightened foreign exchange controls by imposing restrictions on foreign exchange for import contracts, requiring 75 percent of repatriated export proceeds to be sold on authorized exchanges, not allowing banks to trade on their own accounts, limiting the conversion of funds in S-accounts from the GKO restructuring, and banning the conversion of ruble funds from non-resident banks' correspondent accounts. The latter was repealed, but replaced by requiring banks to deposit amounts equivalent to those it holds in S-accounts of non-residents. These exchange controls are only marginally effective at controlling capital flight, which reportedly increased to nearly \$3.0 billion per month in late 1999, but they presumably have helped CBR to manage exchange rate volatility.

3. Structural Policies

The economic crisis of 1998 overshadowed structural issues for the most part throughout 1999. The share of GDP produced by private companies reached 74 percent by the end of 1999 according to official figures. The share of barter in the economy appears to be declining, although it still accounts for roughly half of all transactions according to most estimates. External barter trade sharply declined in 1999 as well. Government arrears dropped dramatically as payment of pensions and salaries in nominal terms became cheaper in light of the drastic ruble devaluation after August 1998. Even though personal incomes dropped precipitously over the last year, industrial production has increased as a result of import substitution. Without investment, however, the up-tick in production is not expected to be sustainable, and little has been done to improve the investment climate. Indeed, several cases involving foreign investment suggest that many issues remain to be addressed.

Repeated changes in government have exacerbated the problems of inadequate structural policies by obscuring economic policy overall. With three Prime Ministers in the first 8 months of 1999, articulation, much less implementation of a coherent structural policy has proven elusive. In addition, the end of the current legislative period carried forward the effective policy stalemate in the economic sphere that has plagued the reform process. The election of a new State Duma in December 1999 will produce a new opportunity for legislative initiatives. However, economic policy is effectively on hold for now, and may well remain so until after the presidential election in July 2000.

Meanwhile, privatization continues, with sales of shares of the government's stakes in oil and gas companies. At the same time, a debate about the benefits of past privatizations has become an element in the Duma election campaign with a number of leading politicians suggesting that de-privatization of some enterprises could be considered. The privatization of the Lomonosov porcelain factory, partly owned by U.S. investors, was reversed by a St. Petersburg court. Court appeals continue. Prime Minister Putin has opposed wholesale reversal of privatization but has suggested that mistakes made in the privatization process should be identified and corrected within the framework of existing legislation.

The government has worked to prevent passage of legislative initiatives that would inhibit foreign investment, for example in the insurance sector, but with mixed results. One potentially important achievement has been the adoption of an ambitious action plan for reducing the regulatory burden on small business, along with tax reduction. Overall however, there has been little progress in the structural policy area over the last year, a development that can only delay Russia's recovery from its financial crisis.

4. Debt Management Policies

Following the August 1998 financial crisis, the Government of Russia has sought to restructure much of its internal debt and the Soviet-era portion of its external debt. The Russian government has reached a Framework Agreement with its Paris Club official creditors in July 1999, but final bilateral agreements are not expected until early in 2000. The Government of Russia is actively negotiating with its London Club commercial creditors on an agreement to restructure and/or reduce its commercial debt inherited from the Soviet government.

In March, the Russian government announced its GKO (Russian T-bill) restructuring proposal, which offered foreign GKO holders a choice between receiving a basket of securities or having their investments placed in a frozen account. Funds received in the restructuring, including from the securities, must be held in investors' S-accounts. The Central Bank of Russia prohibits conversion of S-account rubles into foreign currency, although it held six foreign exchange auctions for S-account holders, of USD 50 million each, all of which were heavily oversubscribed. Investors also may invest restricted S-account rubles in certain securities. In November, the Government of Russia announced it would permit S-account holders to make direct investments

in projects approved by the government, and is reopening its offer to restructure GKO's to those investors who did not take advantage of the first offer. On December 15, the Government of Russia allowed a one-time change in S-account ownership. As of November 15, there were approximately USD 350-400 million, and another USD 2 billion in OFZ bonds, in restricted S-accounts.

The Government of Russia is continuing with its IMF program, although a second tranche release in 1999 has been delayed. The World Bank's Structural Adjustment Loan (SAL) is on hold due to lack of progress on structural reform legislation.

5. Significant Barriers to U.S. Exports

At the end of 1999, the most significant impediments to U.S. exports were not statutory but were instead results of the difficult economic situation in Russia. The devaluation in August 1998 and the reduced purchasing power of Russians played the greatest role, as Russia's overall imports slumped by over 50 percent. U.S. exports to Russia have decreased by an even larger margin in 1999, although one-time sales of aircraft in 1998 exaggerated the overall decline somewhat. Many exporters remain cautious about entering the Russian market due to reduced availability of trade finance, and bad experience with payment/clearance problems in the past. These problems have become less common in 1999, perhaps partially due to the lower volume of trade.

Since 1995, Russian tariffs have generally ranged from five to thirty percent, with a trade-weighted average in the 13-15 percent range. In addition, excise and Value-Added Tax (VAT) is applied to selected imports. The VAT, which is applied on the import price plus tariff, is currently 20 percent with the exception of some food products. Throughout 1999, some revision of tariffs occurred, with in some cases tariffs dropping for inputs needed by Russian producers in the electronics and furniture businesses. On the other hand, there have been sharp hikes in tariffs for sugar and for pharmaceuticals, including high seasonal tariffs on raw and processed sugar. In particular, compound duties with minimum levels of tariffs enacted in 1998 on poultry had the effect of increasing percentage duties after the fall in poultry prices in 1998-99. The Ministry of Trade, supported by the State Customs Committee, has proposed reducing some of Russia's higher tariffs, recognizing that very high tariffs only lead to evasion. However, the government has been reluctant to approve an across-the-board reduction in tariffs given acute revenue concerns, as customs duties account for a larger percentage of state revenues than in most other countries.

Other Russian tariffs that have stood out as particular hindrances to U.S. exports to Russia include those on autos (where combined tariffs and engine displacement-weighted excise duties can raise prices of larger U.S.-made passenger cars and sport utility vehicles by over 70 percent); some semiconductor products; and aircraft and certain aircraft components (for which tariffs are set at 30 percent). The Russian government continues to make waivers on aircraft

import tariffs for purchases by Russian airlines contingent on those airlines' purchases of Russian-made aircraft.

Throughout 1999, Russia introduced a number of export duties (for exports to non-CIS countries) as a revenue measure. Initially, these duties were imposed on oil and gas, but have since been expanded to include many export commodities, including fertilizers, paper and cardboard, some ferrous and non-ferrous metals, and agricultural products, including oilseeds raw hides, and hardwoods, all ranging from 5 to 30 percent.

Import licenses are required for importation of various goods, including ethyl alcohol and vodka, color TVs, sugar, combat and sporting weapons, self-defense articles, explosives, military and ciphering equipment, encryption software and related equipment, radioactive materials and waste including uranium, strong poisons and narcotics, and precious metals, alloys and stones. In 1999, new import license requirements were added for raw and processed sugar. Most import licenses are issued by the Russian Ministry of Trade or its regional branches, and controlled by the State Customs Committee. Import licenses for sporting weapons and self-defense articles are issued by the Ministry of Internal Affairs.

Throughout 1999, the government has continued tight controls on alcohol production, including import restrictions, export duties, and increased excise taxes. Many of these controls are in order to increase budget revenues.

In spring 1998, Russia passed the Law on Protective Trade Measures, which provides the government authority to undertake antidumping, countervailing duty and safeguard investigations, under certain conditions. Although Russian companies have filed several petitions for protection in 1999 under this new law, no petition has yet been approved, due to substantive or procedural insufficiencies of the petitions.

The June 1993 Customs Code standardized Russian customs procedures generally in accordance with international norms. However, customs regulations change frequently, (often without sufficient notice), are subject to arbitrary application, and can be quite burdensome. In addition, Russia's use of minimum customs values is not consistent with international norms. In November 1999, the State Customs Committee imposed a restriction that forced U.S. poultry importers to ship directly through Russian ports, rather than through warehouses in the Baltic States, as had been their practice. On the positive side, Russian customs is implementing the "ClearPac" program in the Russian Far East that facilitates customs clearance from the U.S., and is considering extending this program to other regions.

U.S. companies continue to report that Russian procedures for certifying imported products and equipment are non-transparent, expensive and beset by redundancies. Russian regulatory bodies also generally refuse to accept foreign testing centers' data or certificates. U.S. firms active in Russia have complained of limited opportunity to comment on proposed changes in standards or certification requirements before the changes are implemented, although the

Russian standards and certifications bodies have begun to work closely with the American Chamber of Commerce in Russia to provide additional information. Occasional jurisdictional overlap and disputes between different government regulatory bodies compound certification problems.

A January 1998 revision to State Tax Service Instruction #34, now being enforced, makes it more difficult for expatriate employees of U.S. entities to benefit from the U.S.-Russia bilateral treaty on avoidance of double-taxation. A wide range of U.S. companies selling goods and services in Russia, who formerly could receive advance exemptions from withholding taxes for salaries, are now required to apply for a refund of tax withheld.

Although little of Russia's legislation in the services sector is overtly protectionist, the domestic banking, securities and insurance industries have secured concessions in the form of Presidential Decrees, and a draft law before the parliament will soon codify restrictions and bans on foreign investment in many services sectors. Foreign participation in banking, for example, is limited to 12 percent of total paid-in banking capital. As of mid 1998 foreign banks' capitalization only accounted for around 4 percent of the total. However, as foreign banks recapitalized following the financial crisis and Russian banks' capital shrank, the share of foreign banks' grew to 12.8 percent as of September 1. The Central Bank of Russia has indicated it will seek a higher quota so as not to impede foreign bank entry. Foreign investment is also limited in other sectors, such as electricity generation. In October 1999, a new law took effect, which implicitly allows majority-foreign-owned insurance companies to operate in Russia for the first time, but restricts their share of total market capitalization and prohibits them from selling life insurance or obligatory types of insurance. The law contains a "grandfather clause" exempting the four foreign companies currently licensed in Russia from these restrictions. In practice, foreign companies are often disadvantaged vis-à-vis their Russian counterparts in obtaining contracts, approvals, licenses, registration, and certification, and in paying taxes and fees.

Despite the passage of a new law regulating foreign investment in June 1999, Russian foreign investment regulations and notification requirements can be confusing and contradictory. The Law on Foreign Investments provides that a single agency (still undesignated) will register foreign investments, and that all branches of foreign firms must be registered. The law does codify the principle of national treatment for foreign investors, including the right to purchase securities, transfer property rights, protect rights in Russian courts, repatriate funds abroad after payment of duties, and to receive compensation for nationalizations or illegal acts of Russian government bodies. However, the law goes on to state that Federal law may provide for a number of exceptions, including those necessary for "the protection of the constitution, public morals and health, and the rights and lawful interest of other persons and the defense of the state. The potentially large number of exceptions thus gives considerable discretion to the Russian government. The law also provides a "grandfather clause" that protects existing "priority" foreign investment projects with a foreign participation over 25 percent be protected from unfavorable changes in the tax regime or new limitations on the foreign investment. The definition of "priority" projects is not fully clear, but it appears that projects with a foreign

charter capital of over \$4.1 million and with a total investment of over \$41 million will qualify. In addition, foreigners encounter significant restrictions on ownership of real estate in some cities and regions in Russia, although the situation has improved over the past few years.

The government maintains a monopoly on the sale of precious and several rare-earth metals, conducts centralized sales of diamonds, and conducts centralized purchases for export of military technology. Throughout 1999, the government has sharply restricted exports of platinum group metals, based on new legislation. An August 1997 series of Presidential Decrees on military exports remain in effect. These decrees established tighter control over military exports by the state enterprise Rosvooruzheniye, enabled two additional state firms to sell military goods and technology, and opened the door to future direct sales by arms manufacturers, if licensed and approved by the Ministry of Foreign Economic Relations.

Most of these issues are the subject of discussion, as Russia continues to negotiate its accession to the World Trade Organization (WTO). By the end of 1999, the government had completed ten working party meetings. It tabled its initial market access offer for services in October 1999 and has conducted negotiations on its goods market access offer throughout the year. The Russian Ministry of Trade has stated it plans to revise its goods market access offer early in 2000. Russia is not yet a signatory of the WTO Government Procurement or Civil Aircraft codes.

6. Export Subsidies Policies

The government has not instituted export subsidies, although a 1996 executive decree allows for provision of soft credits for exporters and government guarantees for foreign loans. The government does provide some subsidies for the production of coal, but coal exports are minimal. Soft credits are at times provided to small enterprises for specific projects.

7. Protection of U.S. Intellectual Property

Russia is in the process of accession to the World Trade Organization (WTO), and as a new member, it will be required to meet obligations under the WTO's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs) immediately upon accession. Russia belongs to the World Intellectual Property Organization (WIPO), and has acceded to the obligations of the former Soviet Union under the Paris Convention for the Protection of Industrial Property (patent, trademark and related industrial property), and the Madrid Agreement Concerning the International Registration of Marks, and the Patent Cooperation Treaty. Russia has also become a signatory to the Berne Convention for the Protection of Literary and Artistic Works (copyright) as well as the Geneva Phonograms Convention. In 1999, the U.S. Trade Representative retained Russia on the "Special 301" Priority Watch List for a third year due to a number of concerns over weak enforcement of intellectual property laws and regulations and lack of retroactive copyright protection for U.S. works in Russia.

In 1992-93 Russia enacted laws strengthening the protection of patents, trademarks and appellations of origins, and copyright of semiconductors, computer programs, literary, artistic and scientific works, and audio/visual recordings. Legal enforcement of intellectual property rights (IPR) improved somewhat with a series of raids on manufacturing facilities, and on wholesale and retail outlets of pirated goods. A new Criminal Code took effect January 1, 1997, which contains considerably stronger penalties for IPR infringements. However, there are still disappointingly few cases in which these penalties have been applied. Widespread sales of pirated U.S. video cassettes, recordings, books, computer software, clothes, toys, foods and beverages continue. The formal abolition of the Russian Patent and Trademark Agency this year and the assumption of its responsibilities by the Justice Ministry have raised some concerns, but the practical effect of this change remains to be seen.

Russia's Patent Law includes a grace period, procedures for deferred examination, protection for chemical and pharmaceutical products, and national treatment for foreign patent holders. Inventions are protected for 20 years, industrial designs for ten years, and utility models for five years. The Law on Trademarks and Appellation of Origins introduces for the first time in Russia protection of appellation of origins. The Law on Copyright and Associated Rights, enacted in August 1993, protects all forms of artistic creation, including audio/visual recordings and computer programs as literary works for the lifetime of the author plus 50 years. The September 1992 Law on Topography of Integrated Microcircuits, which also protects computer programs, protects semiconductor topographies for 10 years from the date of registration.

Under the U.S.- Russian Bilateral Investment Treaty (signed in 1992 but waiting ratification by the Russian Parliament), Russia undertook to protect investors' intellectual property rights. The 1990 U.S. Russia bilateral trade agreement stipulates protection of the normal range of literary, scientific and artistic works through legislation and enforcement. Bilateral consultations on IPR were held in March 1999.

8. Worker Rights

a. The Right of Association: The law provides workers with the right to form and join trade unions, but practical limitations on the exercise of this right arise from governmental policy and the dominant position of the formerly governmental Federation of Independent Trade Unions of Russia (FNPR). As the successor organization to the governmental trade unions of the Soviet period and claiming to represent 80 per cent of all workers, the FNPR occupies a privileged position that inhibits the formation of new unions. In some cases, FNPR local unions have worked with management to destroy new unions. Recent court decisions have limited the right of association by mandating that unions include management as members. Justice Ministry officials have used new re-registration requirements to deny legal status to independent unions.

b. The Right to Organize and Bargain Collectively: Although the law recognizes collective bargaining, and requires employers to negotiate with unions, in practice employers often refuse to negotiate and agreements are not implemented. Court rulings have established the

principle that non-payment of wages -- by far the predominant grievance -- is an individual dispute and cannot be addressed collectively by unions. As a result, a collective action based on non-payment of wages would not be recognized as a strike, and individuals would not be protected by the Labor Law's guarantees against being fired for participation. The right to strike is difficult to exercise. Most strikes are technically illegal, and courts have the right to order the confiscation of union property to settle damages and losses to an employer, resulting from an illegal strike. Reprisals for strikes are common, although strictly prohibited by law.

c. Prohibition of Forced or Compulsory Labor: The Labor Code prohibits forced or compulsory labor by adults and children. There are documented cases of soldiers being sent by their superior officers to perform work for private citizens or organizations. Such labor may violate military regulations and, if performed by conscripts, would be an apparent violation of ILO convention 29 on forced labor.

d. Minimum Age for Employment of Children: The Labor Code prohibits regular employment for children under the age of 16 and also regulates the working conditions of children under the age of 18, including banning dangerous, nighttime and overtime work. Children may, under certain specific conditions, work in apprenticeship or internship programs at the ages of 14 and 15. Accepted social prohibitions against the employment of children and the availability of adult workers at low wage rates combine to prevent widespread abuse of child labor legislation. The government prohibits forced and bonded labor by children, and there have been no reports that it occurred.

e. Acceptable Conditions of Work: The Labor Code provides for a standard workweek of 40 hours, with at least one 24-hour rest period. The law requires premium pay for overtime work or work on holidays. Workers have complained of being required to work well beyond the normal week, that is, 10 to 12-hour days, and of forced transfers. As of June 30, workers were owed roughly 2.5 billion US dollars, for periods generally between 3 to 9 months. Although this is less than the \$12.5 billion arrears owed in August 1998, workers have lost significant purchasing power since the devaluation. Workers' freedom to move in search of new employment is virtually eliminated by the system of residency permits. The law establishes minimal conditions of workplace safety and worker health, but these standards are not effectively enforced.

f. Rights in Sectors with U.S. Investment: Observance of worker rights in sectors with significant U.S. investment (petroleum, telecommunications, food, aerospace, construction machinery, and pharmaceuticals) did not significantly differ from observance in other sectors. There are no export processing zones. Worker rights in the special economic zones/free trade zones are fully covered by the Labor Code.

**Extent of U.S. Investment in Selected Industries -- U.S. Direct Investment Position Abroad
on an Historical Cost Basis -- 1998**

(Millions of U.S. Dollars)

Category	Amount
Petroleum	513
Total Manufacturing	269
Food & Kindred Products	243
Chemicals & Allied Products	11
Primary & Fabricated Metals	(1)
Industrial Machinery and Equipment	2
Electric & Electronic Equipment	(1)
Transportation Equipment	0
Other Manufacturing	1
Wholesale Trade	-76
Banking	-346
Finance/Insurance/Real Estate	653
Services	-102
Other Industries	190
TOTAL ALL INDUSTRIES	1,101

(1) Suppressed to avoid disclosing data of individual companies.

Source: U.S. Department of Commerce, Bureau of Economic Analysis.